

PATENT COOPERATION TREATY

PCT

REC'D 25 JAN 2006

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

PCT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 9591WO/AT/LA	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/IB2004/003390	International filing date (day/month/year) 18-10-2004 ✓	Priority date (day/month/year) 16-10-2003 ✓
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant ABB Research Ltd et al ✓		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 ✓ sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☒ (sent to the applicant and to the International Bureau) a total of 3 ✓ sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 04-05-2005 ✓	Date of completion of this report 10-01-2006
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Form PCT/IPEA/409 (cover sheet) (April 2005)

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **Cover sheet**

INTERNATIONAL PATENT CLASSIFICATION (IPC) :

H01R 13/03 (2006.01)

C23C 30/00 (2006.01)

H01R 39/20 (2006.01)

H01R 41/00 (2006.01)

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Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____,
which is the language of a translation furnished for the purposes of:
☐ international search (Rules 12.3(a) and 23.1(b))
☐ publication of the international application (Rule 12.4(a))
☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
☒ the description:
pages 2-33 as originally filed/furnished
pages* 1 received by this Authority on 16-08-2005
pages* _____ received by this Authority on _____
☒ the claims:
pages 25-31, 33 as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* 24 received by this Authority on 16-08-2005
pages* 32 received by this Authority on 09-11-2005
☒ the drawings:
pages 1-6 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. II Priority

1. ☒ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:

☒ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).
☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-56</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-56</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-56</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following document:

D1 WO 03/046247 A1

Discussion.

The present invention basically refers to electrical contact elements comprising a film of a composite material comprising a so called "MAX-material" as an essential constituent. The material comprises compounds and/or phases based on the same atomic elements as the actual corresponding "MAX-material".

D1 represents the closest prior art. It relates to a method of synthesizing "MAX-material" from vapours. It is stated that the composition of a formed layer or film can be varied not only to form different pure "MAX-phases", but also to include for example carbides, nitrides and metals (p. 5, l. 22 - p. 6, l. 19). Therefore, "MAX-materials" *per se* according to the present invention as defined in the claims are known from D1. In addition, D1 states that "MAX-materials" can be used in contact surfaces in electrical contact elements (p. 7, ll. 11-21).

The present invention differs from what is disclosed in D1 in that it is explicitly stated that composite "MAX-materials" are used in contact elements. Consequently, the present invention is novel. It is considered not obvious to a person skilled in the art to arrive at the invention in its embodiments defined in present claims 1-52. The invention is industrially applicable.